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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,594	09/15/2003	Shuichi Sekine	240721US-2SRD DIV	8074
22850	7590	10/01/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			WIMER, MICHAEL C	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/661,594

**Applicant(s)**

SEKINE ET AL.

**Examiner**

Michael C. Wimer

**Art Unit**

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/961,324.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14,18,27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Ireland (3474453).

Regarding Claims 14,27 and 28, Ireland shows in Fig. 6, an antenna apparatus comprising a cavity 53 having a cavity surface with an end portion at 56, a feeding point at 41 arranged at the end portion (at 56) of the cavity surface, a quarter wavelength, linear element 27 having a first end connected to the feeding point 41, and a second end separated from the first end by a physical length shorter than a quarter wavelength, and a half wavelength antenna element connected to the second end of the quarter wavelength, linear element 27 at a connecting point via a conductor piece 33 having a surface arranged separate from the cavity surface 53, all arranged as claimed. Further regarding Claim 27, the linear element, coil 27, is “electrically separated” from the cavity at end 56, and is also electrically connected thereto at the end 35.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ireland (3474453) in view of Yanagisawa et al. (6130651).

Regarding Claim 15, Ireland does not show a specific linear element as recited here. Thus, Yanagisawa et al. are cited as evidence of obviousness and as resolving the level of ordinary skill in the art and shows, for example in Fig. 6, a linear element 60 constructed as a serpentine and having a portion extending away from the feed point 60b and then back toward the direction of the antenna element 60h. It would have been obvious to the skilled artisan to employ the inductor 27 in Ireland as a serpentine inductor 60 for providing a flat version. As to Claim 16, a connecting point 60b (which connects the various antenna elements, at least three) is a distance from the feed point 60a. Regarding Claim 17, a 6<sup>th</sup> or 5<sup>th</sup> wavelength, physical length of the linear conductor is an obvious

length given that the serpentine inductor here, and the helical inductor of Ireland is much less than the electrical length of one-quarter wavelength. The physical length, in terms of wavelength is obvious to vary to the skilled artisan when designing for a specific form factor within a portable device.

6. Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ireland (3474453).

Regarding Claims 19-23, the mere shaping and size of the conductor piece 33, particularly larger in diameter than the coil 27, is an obvious design choice based solely on electrical properties of the inductor and connectors.

Regarding Claims 24 and 25, air is the dielectric between the conductor piece 33 and piece 53. It would have been obvious to the skilled artisan to include any type of dielectric insulation in order to isolate metal parts, e.g., bare wire and associated connectors and conductive mounts.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 14-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6661382. Although the conflicting claims are not identical, they are not patentably distinct from each other because the linear element of a quarter wavelength in electrical length is obvious to provide, where an inductor is physically shorter than the electrical dimension in terms of wavelength. Similarly, sizing of the components supporting and connecting the antenna elements. Not electrically connecting the conductor piece to the cavity is obvious because providing electrical isolation, in terms of direct current is different than RF isolation.

#### ***Claim Objections***

9. Claims 15 and 27 are objected to because of the following informalities:

In Claim 15, line 3, it appears that "form" should be --from--.

In Claim 27, line 6, it appears that "be" should be inserted after "to", if that is intended by applicant.

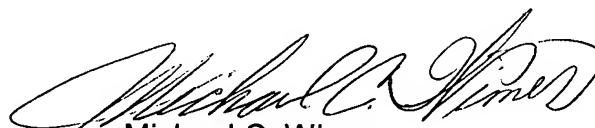
Appropriate correction is required.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Michael C. Wimer", is positioned above the printed name and title.

Michael C. Wimer  
Primary Examiner  
Art Unit 2828

MCW  
9/28/2004